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DATE: Wednesday, January 08, 2003

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L4	L3 and ((482/$)!.CCLS.)	0	L4
L3	L2 and lactate	0	L3
L2	4951197.uref.	20	L2
L1	carbohydrate same fat same protein same (percentage or ratio) and running	19	L1

END OF SEARCH HISTORY

1: J Am Coll Nutr 2000 Feb;19(1):52-60

The effects of varying dietary fat on performance and metabolism in trained male and female runners.

Horvath PJ, Eagen CK, Fisher NM, Leddy JJ, Pendergast DR.

Department of Physical Therapy, University at Buffalo, New York 14214, USA.

OBJECTIVES: Low dietary fat intake has become the diet of choice for many athletes. Recent studies in animals and humans suggest that a high fat diet may increase VO2max and endurance. We studied the effects of a low, medium and high fat diet on performance and metabolism in runners. METHODS: Twelve male and 13 female runners (42 miles/week) ate diets of 16% and 31% fat for four weeks. Six males and six females increased their fat intakes to 44%. All diets were designed to be isocaloric. Endurance and VO2max were tested at the end of each diet. Plasma levels of lactate, pyruvate, glucose, glycerol, and triglycerides were measured before and after the VO2max and endurance runs. Free fatty acids were measured during the VO2max and endurance runs. RESULTS: Runners on the low fat diet ate 19% fewer calories than on the medium or high fat diets. Body weight, percent body fat (males=71 kg and 16%; females=57 kg and 19%), VO2max and anaerobic power were not affected by the level of dietary fat. Endurance time increased from the low fat to medium fat diet by 14%. No differences were seen in plasma lactate, glucose, glycerol, triglycerides and fatty acids when comparing the low versus the medium fat diet. Subjects who increased dietary fat to 44% had higher plasma pyruvate (46%) and lower lactate levels (39%) after the endurance run. CONCLUSION: These results suggest that runners on a low fat diet consume fewer calories and have reduced endurance performance than on a medium or high fat diet. A high fat diet, providing sufficient total calories, does not compromise anaerobic power.

PMID: 10682876 [PubMed - indexed for MEDLINE]

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1: Int J Sports Med 1994 Aug;15(6):301-4

Coincidence of lactate threshold and HR-power output threshold under varied nutritional states.

Thorland W, Podolin DA, Mazzeo RS.

Human Performance Laboratory, Washington State University, Pullman.

The purpose of this study was to cross-validate the method of Conconi et al. (5) that purports to determine "anaerobic threshold" based on a deflection point between heart rate (HR) vs power output. Eight males (22.6 +/- 1.6 y) were tested with maximal progressive cycle ergometry under normal (NG) and glycogen-depleted (GD) conditions. During the last min of each stage, HR was monitored via EKG and blood was sampled for lactate determination. Computerized data analysis was then conducted to determine the deflection points for lines respectively fit to each HR vs power output (heart rate threshold; HRT) and lactate vs power output (lactate threshold; LT) distribution. Under NG conditions, HRT and LT occurred at 200.4 +/- 33.3 and 211.4 +/- 46.5 watts, respectively (equivalent to VO2 = 2.455 +/- 0.368 and 2.618 +/- 0.507 l/min), with a correlation of r = 0.68 between HRT vs LT (S.E.E. for prediction of LT from HRT = 36.7 watts). However, under GD conditions, HRT = 182.9 +/- 43.3 watts and LT = 227.0 +/- 41.1 watts (equivalent to VO2 = 2.395 +/- 0.413 and 2.944 +/- 0.578 l/min) with HRT vs LT r = -0.04 and S.E.E. = 44.4 watts. Across the two conditions, < 4% of the variance in the change in LT was accounted for by the change in HRT. These data indicated that 1) under NG conditions the modest association between HRT and LT was not causally-linked and 2) HRT was not a stable predictor of LT across varying nutritional states such as those common to prolonged exercise.

PMID: 7822067 [PubMed - indexed for MEDLINE]

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1: J Hum Ergol (Tokyo) 1989 Dec;18(2):181-9 Related Articles, Links

Effects of nutrition conditions on relationships between anaerobic threshold and lactate threshold.

Kim SW, Ichimaru N, Kagimura M, Ishii M.

MeSH Terms:

- Anaerobic Threshold/physiology*
- Blood Glucose/metabolism
- Exercise Test
- Fatty Acids, Nonesterified/blood
- Human
- Lactates/blood*
- Male
- Nutritional Status/physiology*
- Reference Values

Substances:

- Lactates
- Fatty Acids, Nonesterified
- Blood Glucose

PMID: 2637288 [PubMed - indexed for MEDLINE]

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1. 6482158 . 14 May 01; 19 Nov 02. System and method of ultrasonic mammography. Mault; James R.. 600/437; 128/915 600/443 600/459. A61B008/00.

2. 6478736 . 10 Oct 00; 12 Nov 02. Integrated calorie management system. Mault; James R.. 600/300; 128/921 600/531 708/131. A61B005/00 A61B005/083 G06F017/00.

3. 6458080 . 31 May 00; 01 Oct 02. Managing parameters effecting the comprehensive health of a user. Brown; Michael Wayne, et al. 600/300; 600/301. A61B005/00.

4. 6436036 . 04 May 99; 20 Aug 02. Process for controlling body weight. Miller-Kovach; Karen, et al. 600/300; 128/897 128/921. A61B005/00.

5. 6336136 . 24 Dec 99; 01 Jan 02. Internet weight reduction system. Harris; Scott C.. 709/219; 128/921 709/227. G06F015/16 G06F017/00 A61B010/00.

6. 6135950 . 20 May 99; 24 Oct 00. E-fit monitor. Adams; Tadd O.. 600/300; 600/586. A61B005/00.

7. 6083006 . 18 Oct 99; 04 Jul 00. Personalized nutrition planning. Coffman; Regina. 434/127; 128/921 434/262. G09B019/00.

8. 6040531 . 18 Jul 97; 21 Mar 00. Process for controlling body weight. Miller-Kovach; Karen, et al. 177/25.16; 128/921 708/133. G06F015/02.

9. 6039688 . 31 Oct 97; 21 Mar 00. Therapeutic behavior modification program, compliance monitoring and feedback system. Douglas; Peter, et al. 600/300; 128/921 705/1. A61B003/00 G06F015/00.

10. 5980447 . 27 Nov 96; 09 Nov 99. System for implementing dependency recovery process. Trudeau; Guy J.. 600/3;. A61B005/04.

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Previous Page Next Page

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11. 5967789 . 30 Jul 98; 19 Oct 99. Method and system for stopping or modifying undesirable health-related behavior habits or maintaining desirable health-related behavior habits. Segel; Joseph M., et al. 434/236; 131/270 434/238. G09B019/00 A24F047/00.

12. 5853377 . 17 Apr 97; 29 Dec 98. System and method for monitoring and analyzing dynamic nutritional status in patients with chronic disease. Madsen; David C., et al. 600/587;. A61B005/103.

13. 5840019 . 31 Jan 97; 24 Nov 98. Graphic presentation chart of medical tests for a patient. Wirebaugh; Jeffrey F.. 600/300;. A61B005/00.

14. 5839901 . 01 Oct 97; 24 Nov 98. Integrated weight loss control method. Karkanen; Kip M.. 434/127; 128/921 600/300. G06F019/00.

15. 5691927 . 26 Aug 94; 25 Nov 97. Nutritional aid and method of operating the same. Gump; Carolyn. 708/131; 708/133 708/142. G06F003/00.

16. 5673691 . 02 Jan 96; 07 Oct 97. Apparatus to control diet and weight using human behavior modification techniques. Abrams; Philip S., et al. 600/300; 128/921 434/238 434/247. G06F015/00 G09B019/00.

17. 5412560 . 20 Oct 92; 02 May 95. Method for evaluating and analyzing food choices. Dennison; Darwin. 600/300; 128/921. G06F015/00.

18. 5398688 . 21 Jul 94; 21 Mar 95. Method, system and instrument for monitoring food intake. Laniado; Shlomo. 600/437; 600/448 600/458. A61B008/00.

19. 5340315 . 27 Jun 91; 23 Aug 94. Method of treating obesity. Kaye; Gail L.. 434/127; 426/590 514/909. G09B019/00.

20. 5207580 . 12 Jun 92; 04 May 93. Tailored health-related behavior change and adherence aid system. Strecher; Victor J.. 434/238; 283/2 40/107. G09B019/00.

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